

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently amended): A slurry for chemical mechanical polishing (CMP) of a structure including a refractory metal based barrier film and a dielectric film, comprising:

a bulk solution;

a plurality of composite particles and at least one selective adsorption additive, said composite particles including an inorganic core surrounded by a shell including said selective adsorption additive, wherein said selective adsorption additive is in a concentration of from 6 to 1,000 critical micelle concentration (CMC) when said selective adsorption additive is non-ionic and from 1 to 1,000 CMC when said selective adsorption additive is zwitterionic, anionic or cationic, said selective adsorption additive self assembling in said bulk solution is substantially adsorbed by said dielectric film but not substantially adsorbed by said refractory metal based barrier film.

Claim 2. (Currently amended): The slurry of claim 1, wherein said selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 3 CMC inorganic cores comprise at least one selected from the group consisting of silica, zirconia, yttria, titania, silicon nitride, silicon carbide and alumina.

Claim 3. (Currently amended): The slurry of claim 1, wherein said selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 6 CMC ~~inorganic cores are multiphase particles, said multiphase particles comprising a first material coated with at least one other material.~~

Claim 4. (Currently amended): The slurry of claim 1, wherein selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 10 CMC ~~a surface of said inorganic cores is selected to be chemically equivalent to said dielectric layer.~~

Claim 5. (Currently amended): The slurry of claim [[3]] 1, wherein said selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 20 CMC ~~ether material is selected to be chemically equivalent to said dielectric layer.~~

Claim 6. (Currently amended): The slurry of claim [[3]] 1, wherein said inorganic cores comprise nanoporous particles ~~inorganic cores are at least one selected from the group consisting of silica, doped silica and nanoporous silica.~~

Claim 7. (Currently amended): The slurry of claim [[3]] 1, wherein said inorganic cores comprise a first material coated with a second material, said second material different from said first material ~~ether material comprises at least one selected from the group consisting of silica, nanoporous silica and doped silica.~~

Claim 8. (Currently amended): The slurry of claim [[3]] 1, further comprising at least species selected from the group consisting of a polyhalide ion, I₂, Br₂ and F₂ ~~wherein said inorganic cores are at least one selected from the group consisting of alumina, zirconia, silicon nitride and said other layer is at least one selected from the group consisting of silica, doped silica and nanoporous silica.~~

Claim 9. (Original): The slurry of claim 1, wherein said selective adsorption additive exhibits substantial adsorption to said dielectric layer, said dielectric film selected from the group consisting of silicon dioxide, silicon nitride and low K materials.

Claim 10. (Original): The slurry of claim 1, wherein said selective adsorption additive exhibits adsorption to a copper or silver containing film greater than adsorption to said refractory metal based barrier film.

Claim 11. (Original): The slurry of claim 1, wherein a selectivity of a CMP process using said slurry is at least approximately 20 for said refractory metal based barrier film compared to said dielectric film, said dielectric film comprising a silicon dioxide or low K film.

Claim 12. (Original): The slurry of claim 1, wherein a selectivity of a CMP process using said slurry is at least approximately 100 for said refractory metal based barrier film compared to said dielectric film, said dielectric film comprising a silicon dioxide or low K film.

Claim 13. (Original): The slurry of claim 1, wherein a selectivity of a CMP process using said slurry is at least 0.5 for said refractory metal based barrier film compared to a layer comprising copper or silver.

Claim 14. (Original): The slurry of claim 1, wherein a selectivity of a CMP process using said slurry is at least 2.0 for said refractory metal based barrier film compared to a layer comprising copper or silver.

Claim 15. (Original): The slurry of claim 1, wherein a selectivity of a CMP process using said slurry is at least approximately 100 for a layer comprising copper or silver compared to said dielectric film, said dielectric film comprising a silicon dioxide or low K film.

Claim 16. (Original): The slurry of claim 1, wherein a selectivity of a CMP process using said slurry is at least approximately 1000 for a film comprising copper or silver compared to said dielectric film, said dielectric film comprising a silicon dioxide or low K film.

Claim 17. (Original): The slurry of claim 1, further comprising at least one organic solvent.

Claim 18. (Original): The slurry of claim 1, further comprising at least one passivating additive for inhibiting the oxidation of a copper or silver containing film.

Claim 19. (Original): The slurry of claim 18, wherein said passivating additive comprises at least one selected from the group consisting of benzotriazole (BTA), tolytriazole (TTA), imidazole, thiols, mercaptans, oxalic acid, sodium hexanoate and carboxylic acid.

Claim 20. (Original): The slurry of claim 1, further comprising at least one complexing agent.

Claim 21. (Original): The slurry of claim 20, wherein said complexing agent comprises at least one selected from the group consisting of acetic acid, citric acid, tartaric acid and succinic acid.

Claim 22. (Currently amended): The slurry of claim 1, wherein said selective adsorption additive comprises a mixture of at least one anionic surfactant and at least one cationic or zwitterionic surfactant at least one surfactant selected from the group consisting of non-ionic, anionic, cationic and zwitterionic surfactants.

Claim 23. (Currently amended): The slurry of claim 1, wherein said selective adsorption additive comprises at least one surfactant selected from the group consisting of SAS, SDS, CTAB, and CTAC [[, TRITON X-100[®]]] octylphenol ethylene oxide condensate, [[TWEEN-80[®]]] polyoxyethylene sorbitan monooleate, and [[KETJENLUBE 522[®]]] a water soluble copolymer of an average molecular weight of approximately 15,000 consisting of a-olefins and dicarboxylic acids, partially esterified with an ethoxilated alcohol.

Claim 24. (Original): The slurry of claim 1, wherein said selective adsorption additive comprises CTAB or CTAC, and said inorganic cores comprise silica.

Claim 25. (Original): The slurry of claim 24, wherein said CTAB comprises C₁₂TAB.

Claim 26. (Original): The slurry of claim 25, wherein said oxidizer is at least one selected from the group consisting of hydrogen peroxide, potassium ferrocyanide; potassium iodate, and perchlorates.

Claims 27 and 28. Canceled.

Claim 29. (Original): The slurry of claim 1, wherein said selective adsorption additive comprises at least one polymer.

Claim 30. (Original): The slurry of claim 29, wherein said polymer is at least one selected from the group consisting of polyethylene oxide (PEO), polyacrylic acid (PAA), polyacryamide (PAM), polyvinylalcohol (PVA) and polyalkylamine (PAH).

Claim 31. (Original): The slurry of claim 1, further comprising at least one salt.

Claim 32. (Original): The slurry of claim 31, wherein said salt is at least one selected from the group consisting of chlorides, nitrates and ammonium-based salts.

Claim 33. (Original): The slurry of claim 1, wherein a pH of said slurry is from 6 to 13.

Claim 34. (Original): The slurry of claim 1, wherein a pH of said slurry is from 8 to 11.

Claim 35. (Original): The slurry of claim 1, wherein a concentration of said core particles in said slurry is from approximately 1% to 40% by weight.

Claim 36. (Original): The slurry of claim 1, further comprising at least one oxidizer.

Claim 37. (Original): The slurry of claim 36, wherein said oxidizer is at least one selected from the group consisting of hydrogen peroxide, potassium ferrocyanide, potassium iodate and perchlorates.

Claim 38. (Original): The slurry of claim 1, wherein said slurry provides adsorption ratio (AR) for a film comprising copper or silver of no more than 5, said refractory metal based barrier film of no more than 5, and said dielectric film of at least 10.

Claim 39. (Original): The slurry of claim 38, wherein an AR of said dielectric film is at least 100.

Claim 40. (Original): The slurry of claim 38, wherein an AR of said dielectric film is at least 500.

Claim 41. (Original): The slurry of claim 1, wherein said slurry provides an adsorption ratio (AR) for a film comprising copper or silver of no more than 2, said refractory metal based barrier film of no more than 2, and said dielectric film of at least 10.

Claim 42. (Original): The slurry of claim 41, wherein an AR of said dielectric film is at least 100.

Claim 43. (Original): The slurry of claim 41, wherein an AR of said dielectric film is at least 500.

Claim 44. (Original): The slurry of claim 1, wherein said slurry provides a selective adsorption ratio (SAR) for a film comprising copper or silver to said refractory metal based barrier film of at least one.

Claim 45. (Original): The slurry of claim 1, wherein said slurry provides a SAR of said dielectric film to said refractory metal based barrier film of at least 50.

Claim 46. (Original): The slurry of claim 1, wherein said slurry provides a SAR of said dielectric layer to said refractory metal based barrier film of at least 100.

Claim 47. (Currently Amended): [[A]] The slurry of claim 1 [[for chemical mechanical polishing (CMP) of a structure including a refractory metal based barrier film and a dielectric

film]], wherein said slurry provides a selectivity for a CMP process of at least approximately 50 for said refractory metal based barrier film compared to said dielectric film, said dielectric film comprising a silicon dioxide or low K film.

Claim 48. (Currently Amended): [[A]] The slurry of claim 1 for chemical mechanical polishing (CMP) of a structure including a refractory metal based barrier film, copper film and a dielectric film, wherein said slurry provides a selectivity for a CMP process of at least approximately 100 for [[said]] a copper film compared to said dielectric film, said dielectric film comprising a silicon dioxide or low K film.